APPENDIX

Opinion of the Court Below, Including Findings of Fact and Conclusion of Law

IN THE

United States Court of Claims

No. 6-53

(Decided June 7, 1955)

T. A. LOVING & COMPANY, a corporation organized and existing under the laws of the State of North Carolina, Bank of Wayne Building, Goldsboro, North Carolina,

and

SOUTHEASTERN CONSTRUCTION COMPANY, a corporation organized and existing under the laws of the State of North Carolina, 301 West Second Street, Charlotte, North Carolina,

v.

THE UNITED STATES.

Mr. Paul W. Steer for the plaintiffs. *Messrs. Steer, Strauss & Adair* were on the briefs.

Miss Frances L. Nunn, with whom was *Mr. Assistant Attorney General Warren E. Burger*, for the defendant. *Mr. Wilson Myers* and *Mr. William R. Stern II* were on the briefs.

OPINION

Opinion, Page 1

LARAMORE, *Judge*, delivered the opinion of the court:

Plaintiffs, contractors for the construction of the Veterans' Administration Hospital, Beckley, West Virginia, were required by the contracting officer to install facing tile in the walls of the hospital's boiler house and garage where the specifications called for "structural unglazed units." It is plaintiffs' position that this language permitted the use of cinder block. They claim the difference between the cost of installing facing tile and cinder block.

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The plaintiffs, coadventurers, were successful bidders on the Veterans' Administration Hospital at Beckley, West Virginia. On February 19, 1948, a contract was executed for construction of the hospital. The contract price was $4,975,123.

The Finish Schedule on the key sheet which formed part of the plans and specifications indicated that wall finishes 50 and 51 should be "struc. unglazed units." Section 5-04 of the specifications stated that "structural unglazed units marked in Finish Schedule * * * shall be smooth unglazed units." Smooth unglazed units are described in detail in section 5-05, where, in subsection (b) (2), it is provided that all smooth unglazed units shall be manufactured of fireclay, shall be free from cracks with a smooth, unbroken, natural-die finish, and shall be buff in color.

Addendum No. 1 amended section 4 which related to brick and structural tile to permit the use of cinder block as an alternative to structural clay tile. Section 5, entitled "Masonry: Structural Facing Units," was not so amended.

Plaintiffs employed the Southern Fireproofing Company as subcontractors to construct the interior walls in the hos-

pital, in the boiler house and garage, and in the pump and meter house. The work was in progress when Samuel F. Brown, defendant's liaison engineer on the Clarksburg and Beckley hospital projects, discovered that cinder blocks were being installed in the walls of a basement room in the "Beckley" hospital. The Finish Schedule indicated that the walls of this room were to be "struc. unglazed units." The discovery was the first indication Mr. Brown had that plaintiffs were interpreting the phrase "structural unglazed units" in the Finish Schedule to permit the use of cinder blocks. To save the additional expense and loss of time which would ensue had the completed wall structure been removed, plaintiffs were permitted to cover the exposed cinder blocks with "soaps" of matte glazed tile, a non-load-bearing facing tile, which gave the same appearance as the structural unglazed units specified. Plaintiffs made the necessary adjustments without protest and without claim for additional costs.

Thereafter, under the instruction of defendant's resident engineer, who had been cautioned by Mr. Brown to make

sure that the proper finish was used in the boiler house and garage where the Finish Schedule specified structural unglazed units, plaintiffs installed unglazed facing tile. They then claimed the sum of $19,284.29, representing the difference in the cost of installing facing tile over cinder block. The sum of $14,752.92 of this claim represented costs of the subcontractor. The claim was denied by the contracting officer and by the Army Board of Contract Appeals of the Corps of Engineers acting for the Secretary of the Army.

The question presented is whether the specifications here involved required the use of facing tile when "structural unglazed units" were called for on the Finish Schedule.

The pertinent provisions of the contract and specifications are as follows:

SPECIFICATIONS

SC-2 *Drawings—contract drawings, maps and specifications.*—Ten sets of contract drawings, maps and specifications will be furnished the contractor without charge. Additional sets will be furnished on request at the cost of reproduction. The work shall conform to the following drawings, all of which form a part of these specifications and are available in the Office of the Corps of Engineers, Department of the Army, at Huntington, West Virginia.

Drawing No.:	*Title*
40-04-ASHPE-1	Key Sheet
32-01-A-2	Basement Floor Plan
36-13-A-2	Plans

SECTION 4

MASONRY, BRICK AND STRUCTURAL TILE

401. *Scope:* The work covered by this section of the specifications consists in furnishing all plant, labor, equipment, appliances, and materials, and in performing all operations in connection with the furnishing and installation of brick and structural tile masonry, complete, in strict accordance with this section of the specifications and the applicable drawings, and subject to the terms and conditions of the contract.

402. *Applicable Specifications:* The following Federal Specifications form a part of this specification:

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HH-B-671c	Brick; Fire Clay.
QQ-B-71a	Bars; Reinforcement, (For) Concrete.
SS-B-656	Brick; Building (Common), Clay.
SS-B-681	Brick; Sand-Lime.
SS-T-316	Tile; Partition, Gypsum.
SS-T-341a	Tile; Structural, Clay, Load-Bearing, Wall.
SS-T-351a	Tile; Structural, Clay, Non-Load-Bearing.

4-03. *Materials:* • • •

(g) *Structural Clay Tile:* Structural clay tile shall include all the standard shapes required to complete the construction, and shall conform to the following:

(1) *Load-Bearing Clay Tile:* Load-bearing clay tile shall conform to the requirements of Federal Specifications SS-T-341a, grade LB, and shall be of design shown on drawings. The exposed faces of the tile shall be smooth except where the tile serves as a base for plaster in which case the tile shall have a plaster base finish.

(2) *Non-Load-Bearing Clay Tile:* Non-load-bearing clay tile shall conform to the requirements of Federal Specification SS-T-351a. The exposed faces of the tile shall be smooth except where the tile serves as a base for plaster in which case the tile shall be scored to receive the plaster. The tile shall have a clear ring when struck.

SECTION 5

MASONRY: STRUCTURAL FACING UNITS

5-01. *Scope:* The work covered by this section of the specifications consists in furnishing all plant, labor, equipment, appliances, and materials, and in performing all operations in connection with the furnishing and installation of the structural-facing-unit masonary, complete, in strict accordance with this section of the specifications and the applicable drawings, and subject to the terms and conditions of the contract.

5-02. *Alternate C:* Attention is invited to the fact that Alternate C provides for the elimination of painted walls above the structural glazed tile wainscot for Room Finishes Nos. 5, 14, 17, 18, 19, 21, 31 and 32 in lieu thereof provides

for the construction of the entire wall from floor to ceiling of structural glazed tile for such room finishes. The con-

tractor will be required to perform such work in accordance with the contract which will indicate whether the construction contemplated shall be in accordance with the basic specification or Alternate C.

5-03. *Applicable Specification:* The following Federal Specification forms a part of this specification:

SS-T-341a Tile; Structural, Clay, Load-Bearing, Wall.

5-04. *General:* Structural facing tile shall be installed in the spaces shown on the drawings and shall be glazed and unglazed units as hereinafter specified. Units shall be of the sizes indicated on the drawings, and all shapes and sizes shown or required for a complete and proper installation shall be furnished or cut on the job. Job cutting shall be by a motordriven saw designed for the purpose. Cut edges shall be clean and sharp. Backs of units upon which plaster is to be applied shall be scored, combed, or roughened. Beds, ends, and backs upon which mortar or plaster is to be applied shall be reasonably free from glaze. Units shall be delivered, stored, and handled in a manner that will protect them from stain and damage. Structural glazed units marked in Finish Schedule on drawings shall be ceramic opaque glazed units. Structural unglazed units marked in Finish Schedule on drawings shall be smooth unglazed units.

(a) *Special Shapes:* Bullnose corners, bullnose caps, flush coved base and round top coved base, slope sills, standard radials (radius 4-foot), and coved interior corners shall be furnished where shown or specified. Unless otherwise specified, all external vertical corners, and external corners of sills, and caps shall be bullnose, base shall be flush on top and coved to meet floor finish, and internal corners shall be square.

5-05. *Structural Facing Units:*

(a) *General Requirements:* Except as otherwise specified herein, structural facing units shall conform to the

requirements of Federal Specification SS-T-341a. Structural facing units shall be made of selected fusible materials of the types hereinafter specified, carefully proportioned, thoroughly mixed, and burned as straight and true

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as careful manufacture can achieve to produce a strong homogeneous body that will give a sharp metallic-bell-like ring when struck. The minimum thickness of the outside shell at any point shall be not less than 5/8 inch except that with side construction units with scored beds the minimum thickness of the top and bottom shells from the inner surface to the bottom of the grooves shall be 1/2 inch, and with multicored units designed to be split for fractional lengths the minimum thickness from face to kerfing cores shall be 1/2 inch. Where a structural facing unit wainscot is required to be finished flush with plaster above, such units shall have all corners sharp and square.

(b) *Types and Qualities:*

(1) *Ceramic-Opaque-Glazed Fire-Clay Units:* The body of all ceramic-glazed fire-clay units shall be of clear-burning, plastic fire clay. The face or faces that will be exposed shall be covered with an opaque ceramic glaze. The glaze shall be compounded of metallic oxides, chemicals and clays, thoroughly ground together and sprayed upon the previously formed body and then fused to the body by burning the units at high temperatures to give a matte finish. The texture of the finish shall be smooth and the color shall be the manufacturer's standard shade of green or cream tan, and shall conform to the approved samples. The glaze of select quality, ceramic-glazed fire-clay units shall be free from chips, crazes, blisters, crawling, or other imperfections detracting from the appearance of the finished wall when viewed from a distance of 5 feet. The faces of the units shall pass the tests hereinafter specified for imper-

viousness, opacity, fading, and resistance to crazing. Over-all dimensions of the face of units shall not differ by more than 1.5 percent over or under the intended dimensions, and for any one structure the difference in the over-all dimensions of the face of the individual units shall not exceed 1.5 percent of the intended dimensions. The maximum permissible distortion of the faces from a plane and of the edges from a straight line shall be those shown in column one of table I below. The maximum absorption of any one unit shall be 10 percent and for an average of 5 units shall be 8 percent. Requirements for minimum absorption will be

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waived. The minimum compressive strength of any one end-construction unit shall be 2500 psi and of any one side-construction unit shall be 1500 psi. The average compressive strength of 5 end-construction units shall be not less than 3000 psi and 5 side-construction units shall be not less than 2000 psi.

(2) *Smooth Unglazed Units:* All smooth unglazed units shall be type FTX, heavy-duty, select quality. The body of all smooth unglazed units shall be manufactured of fire clay. The face or faces that will be exposed when units are in place shall be free from cracks and shall have a smooth, unbroken, natural-die finish. The color of the faces shall be BUFF and shall conform to the approved samples. The finished face or faces of the smooth unglazed units shall be free from chips and other imperfections detracting from the appearance of the finished wall when viewed from a distance of 10 feet. Units having surface chips not in excess of ⅛ inch from edges and ¼ inch in from corners will not be rejected. The faces of the units shall be highly resistant to staining and easily cleaned. Over-all dimensions of the face of the units shall not differ by more than 1.5 percent

over or under the intended dimensions, and for any one structure the difference in the over-all dimensions of the faces of the individual units shall not exceed 1.5 percent of the intended dimensions. The maximum permissible distortion of the faces from a plane and of the edges from a straight line shall be those shown in column one of table I below. The maximum absorption of any one unit shall be 9 percent and for an average of 5 units shall be 7 percent. Requirements for minimum absorption will be waived. The minimum compressive strength of any one end-construction unit shall be 2000 psi and of any one side-construction unit shall be 1000 psi. The average compressive strength of any 5 end-construction units shall be not less than 2500 psi and of 5 side-construction units shall be not less than 1000 psi.

5-05. (b) (3) *Permissible Distortion of Face or Edges:* Distortions of the face from a plane, or the edges of the face from a straight line when measured as the maximum ordinate from the plane or line to the face or edge shall not exceed the amount given below.

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TABLE I

Standard face dimensions (height and length) in inches:	*Maximum permissible distortion in inches* 1
2⅜ x 7¾	3/64
5 1/16 x 7¾	1/16
5 1/16 x 11¾	3/32
3¾ x 11¾	3/32
7¾ x 11¾	5/32
7¾ x 15¾	3/16

(4) *Compressive Strength:* Test for compressive strength shall be made in accordance with the methods described in Federal Specifications SS-T-341a.

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ADDENDUM NO. 1

SPECIFICATION

• • • • •

(11) Par. 4-01, Page 4-1. In the fourth line of this paragraph, delete "installation of brick and structural tile masonry" and substitute the following therefor: "installation of brick, structural tile and concrete block masonry."

(12) Par. 4-02, Page 4-1. Add the following at the end of this paragraph: "SS-C-621. Concrete Units; Masonry, Hollow."

(13) Par. 4-03 (g) (2), Page 4-3. After this subparagraph, add the following subparagraphs:

(h) *Concrete Masonry Units:* Concrete masonry units may be used, at the contractor's option, instead of the corresponding type of structural clay tile and shall conform to the following:

(1) *Load-Bearing Units:* Load-bearing concrete masonry units shall conform to the requirements of Federal Specification SS-C-621, Type I, with weight of concrete 100 pounds or less per cubic foot. Units shall be of standard sizes and shapes including closers, and shapes required by the construction, shall be free of any deleterious matter that will stain plaster or corrode metal, and shall be adequately cured before shipment.

(2) *Non-Load-Bearing Units:* Non-load-bearing concrete masonry units shall conform to the requirements of Federal

Specification SS-C-621, Type II, with weight of concrete 100 pounds or less per cubic foot.

(14) Par. 4-04, Page 4-3. Add the following at the end of this paragraph:

"Concrete masonry units—2 of each type."

(15) Par. 4-06 (c), Page 4-5. Insert in the title of this subparagraph and in the first line after "structural clay tile" the following: "or concrete masonry units."

(16) Par. 5-02, Page 5-1. Delete the word "tile" appearing in the third and fifth line of this paragraph and substitute the words "facing unit" therefor.

* * * * *

This case turns upon the meaning of the phrase "structural unglazed units." Plaintiffs assert that the term excludes facing tile and insist that defendant's requirement that facing tile be used where the plans and specifications called for "structural unglazed units" imposed an unauthorized additional expense upon the contractors for which defendant is liable. It is defendant's position that the phrase "structural unglazed units" means facing tile.

A scrutiny of the contract and specifications makes the question of interpretation relatively simple. The Finish Schedule on the key sheet provides that wall finishes 50 and 51 shall be "struc. unglazed units." Section 4 defines structural clay tile which admittedly is not facing tile and makes no reference to structural unglazed units. However, section 5 is headed "Masonry: Structural Facing Units" and in the first sentence of subsection 5-04 it provides that "Structural facing tile * * * shall be glazed and unglazed units as hereinafter specified." The last sentence of subsection 5-04 states that "Structural unglazed units marked in Finish Schedule on drawings shall be smooth unglazed units." Subsection 5-05 (b) (2) defines smooth unglazed units as follows: "All smooth unglazed units shall be type FTX, heavy-duty, select quality. The body of all smooth unglazed units shall be manufactured of fireclay. The face or faces that will be exposed when units are in place shall be free from cracks and shall have a smooth, unbroken, natural-die finish. The color of the faces shall be BUFF and shall conform to the approved samples. The finished face or faces

of the smooth unglazed units shall be free from chips and other imperfections detracting from the appearance of the finished wall when viewed from a distance of 10 feet. * * *."

Section 4 was amended to permit the use of cinder block as an alternative to structural clay tile. The evidence shows, as testified to by plaintiffs' witnesses Allen and Bingham, that either of these materials is appropriate when appearance is not a primary consideration. It is significant that no similar amendment was made to section 5, and cinder block could not be a substitute under this section.

It is clear that appearance was a primary consideration in section 5, especially in view of the fact that color was one of the requirements. Moreover, defendant's exhibit 2 —Buff fireclay facing tile, which is required to be installed where structural unglazed units were specified—is the only tile meeting the color test and other specifications for smooth unglazed units. Further proof of this is the fact that before any question about the proper interpretation of section 5 was presented, Mr. Brown, defendant's liaison engineer, discovered that plaintiffs were installing cinder block in a basement room where the Finish Schedule called for "structural unglazed units." Plaintiffs were permitted to correct their error by covering the cinder block wall with matte glazed tile, a nonstructural facing tile, *thereby producing the same appearance* that would have been provided had the structural unglazed units been used. Furthermore, plaintiffs installed the matte glazed tile without protest and without claim for additional costs.

It is conceded in plaintiffs' brief that the smooth unglazed units described in subsection 5-05 (b) (2) are facing tile. "Structural facing tile" is the subject of subsection 5-04, providing that structural facing tile shall be "glazed and unglazed units as hereinafter specified." Accordingly,

structural unglazed units are thereinafter specified to be smooth unglazed units. Thus structural facing tile are smooth unglazed units as described in subsection 5-05 (b) (2) which plaintiffs concede are "structural unglazed facing tile."

Reduced to simple terms section 5 is headed "Masonry: Structural Facing Units." Subsection 5-04 calls for structural facing tile to be installed and further says structural

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facing unglazed units shall be smooth unglazed units. Subsection 5-05 (b) (2) defines smooth unglazed units, which obviously could only include "facing tile," for the reason, in addition to the requirements in subsection 5-05 (b) (2), the evidence shows that the question of "glazed" or "unglazed" could only apply to facing units.

Therefore, the phrase "structural unglazed units" could only mean facing tile under a proper construction of the contract and specifications and would require the installation of facing tile where structural unglazed units are specified.

When the defendant required that unglazed facing tile be used where the plans and specifications called for "structural unglazed units" it was correctly interpreting the plans and specifications and the plaintiffs are not entitled to recover the additional costs incurred in the installation of facing tile. We, therefore, dismiss plaintiffs' petition.

It is so ordered.

MADDEN, *Judge*; WHITAKER, *Judge*; LITTLETON, *Judge*; and JONES, *Chief Judge*, concur.

FINDINGS OF FACT

The court, having considered the evidence, the report of Commissioner Currell Vance, and the briefs and argument of counsel, makes findings of fact as follows:

1. Plaintiff T. A. Loving & Company is a corporation organized and existing by virtue of the laws of the State of North Carolina with its principal offices at Goldsboro, North Carolina.

2. Plaintiff Southeastern Construction Company is a corporation organized and existing by virtue of the laws of the State of North Carolina with its principal offices at Charlotte, North Carolina.

3. The plaintiffs are engaged in business as general contractors for the construction of buildings and other works, and insofar as this petition is concerned, were and are acting as joint contractors and coadventurers.

4. On November 24, 1947, the office of the District Engineer, Huntington District, Corps of Engineers, U. S. Army, issued an invitation for bids for the construction of a Veterans' Administration Hospital at Beckley, West Virginia.

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The invitation was designated Serial No. W-46-022-eng 48-78 and was accompanied by specifications and drawings.

5. Plaintiffs formed a joint venture to undertake the performance of the general contract for the construction of the hospital at Beckley, entered their bid and the same was accepted. On February 19, 1948, Contract No. W-46-022-eng-1476 was executed between the plaintiffs and the United States for the construction of the Veterans' Administration Hospital and appurtenances, Beckley, West Virginia (except elevators, dumbwaiters and quarters). The contract price was $4,975,123.

6. The controversy in this case relates to the requirements of the contract and specifications for the finish of the walls in the garage and boiler house. This actual work was performed by a subcontractor, Southern Fireproofing Company, whose subcontract is in evidence at plaintiffs' Exhibit 2.

7. The portions of the specifications involved in the decision of the issue are set out below:

SC-2 *Drawings—contract drawings, maps and specifications.*—Ten sets of contract drawings, maps and specifications will be furnished the contractor without charge. Additional sets will be furnished on request at the cost of reproduction. The work shall conform to the following drawings, all of which form a part of these specifications and are available in the Office of the Corps of Engineers, Department of the Army, at Huntington, West Virginia.

Drawing No.:	*Title*
40-04-ASHPE-1	Key Sheet
32-01-A-2	Basement Floor Plan
36-13-A-2	Plans

SECTION 4

MASONRY: BRICK AND STRUCTURAL TILE

4-01. SCOPE: The work covered by this section of the specifications consists in furnishing all plant, labor, equipment, appliances, and materials, and in performing all operations in connection with the furnishing and installation of brick and structural tile masonry, complete, in strict accordance with this section of the specifications and the applicable drawings, and subject to the terms and conditions of the contract.

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402. APPLICABLE SPECIFICATIONS: The following Federal Specifications form a part of this specification:

HH-B-671c	Brick; Fire Clay.
QQ-B-71a	Barns; Reinforcement, (For) Concrete.
SS-B-656	Brick; Building (Common), Clay.
SS-B-681	Brick; Sand-Lime.
SS-T-316	Tile; Partition, Gypsum.
SS-T-341a	Tile; Structural, Clay, Load-Bearing, Wall.
SS-T-351a	Tile; Structural, Clay, Non-Load-Bearing.

4-03. MATERIALS: * * *

(g) *Structural Clay Tile:* Structural clay tile shall include all the standard shapes required to complete the construction, and shall conform to the following:

(1) *Load-Bearing Clay Tile: Load-bearing clay tile* shall conform to the requirements of Federal Specification SS-T-341a, grade LB, and shall be of design shown on drawings. The exposed faces of the tile shall be smooth except where the tile serves as a base for plaster in which case the tile shall have a plaster base finish.

(2) *Non-Load-Bearing Clay Tile:* Non-load-bearing clay tile shall conform to the requirements of Federal Specification SS-T-351a. The exposed faces of the tile shall be smooth except where the tile serves as a base for plaster in which case the tile shall be scored to receive the plaster. The tile shall have a clear ring when struck.

SECTION 5

MASONRY: STRUCTURAL FACING UNITS

5-01. SCOPE: The work covered by this section of the specifications consists in furnishing all plant, labor, equipment, appliances, and materials, and in performing all operations in connection with the furnishing and installation of the structural-facing-unit masonry, complete, in strict accordance with this section of the specifications and the applicable drawings, and subject to the terms and conditions of the contract.

5-02. ALTERNATE C: Attention is invited to the fact that Alternate C provides for the elimination of painted walls above the structural glazed tile wainscot for Room Finishes Nos. 5, 14, 17, 18, 19, 21, 31 and 32 and in lieu thereof provides for the construction of the entire wall from floor to ceiling of structural glazed tile for such room finishes. The contractor will be required to perform such work in accordance with the contract which will indicate whether the construction contem-

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plated shall be in accordance with the basic specification or Alternate C.

5-03. APPLICABLE SPECIFICATION: The following Federal Specification forms a part of this specification:

SS-T-341a Tile; Structural, Clay, Load-Bearing, Wall.

5-04. GENERAL: Structural facing tile shall be installed in the spaces shown on the drawings and shall be glazed and unglazed units as hereinafter specified. Units shall be of the sizes indicated on the drawings, and all shapes and sizes shown or required for a complete and proper installation shall be furnished or cut on the job. Job cutting shall be by a motordriven saw designed for the purpose. Cut edges shall be clean and sharp. Backs of units upon which plaster is to be applied shall be scored, combed, or roughened. Beds, ends, and backs upon which mortar or plaster is to be applied shall be reasonably free from glaze. Units shall be delivered, stored, and handled in a manner that will protect them from stain and damage. Structural glazed units marked in Finish Schedule on drawings shall be ceramic opaque glaze units. Structural unglazed units marked in Finish Schedule on drawings shall be smooth unglazed units.

(p) *Special Shapes:* Bullnose corners, bullnose caps, flush coved base and round top coved base, slope sills, standard radials (radius 4-foot), and coved interior corners shall be furnished where shown or specified. Unless otherwise specified, all external vertical corners, and external corners of sills, and caps shall be bullnose, base shall be flush on top and coved to meet floor finish, and internal corners shall be square.

5-05. STRUCTURAL FACING UNITS:

(a) *General Requirements:* Except as otherwise specified herein, structural facing units shall conform to the requirements of Federal Specification SS-T-341a. Structural facing units shall be made of selected fusible materials of the types hereinafter specified, carefully proportioned, thoroughly mixed, and burned as straight and true as careful manufacture can achieve to produce a strong homogeneous body that will give a sharp metallic-bell-like ring when struck. The minimum thickness of the outside shell at any point shall be not less than 5/8 inch except that with side construction units with scored beds the minimum thickness of the top and bottom shells from the inner surface to the bottom of

the grooves shall be ½ inch, and with multicored units designed to be split for fractional lengths the minimum

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thickness from face to kerfing cores shall be ½ inch. Where a structural facing unit wainscot is required to be finished flush with plaster above, such units shall have all corners sharp and square.

(b) *Types and Qualities:*

(1) *Ceramic-Opaque-Glazed Fire-Clay Units:* The body of all ceramic-glazed fire-clay units shall be of clear-burning, plastic, fire clay. The face or faces that will be exposed when units are in place shall be free from cracks and shall be covered with an opaque ceramic glaze. The glaze shall be compounded of metallic oxides, chemicals and clays, thoroughly ground together and sprayed upon the previously formed body and then fused to the body by burning the units at high temperatures to give a matte finish. The texture of the finish shall be smooth and the color shall be the manufacturers standard shade of green or cream tan, and shall conform to the approved samples. The glaze of select quality, ceramic-glazed fire-clay units shall be free from chips, crazes, blisters, crawling, or other imperfections detracting from the appearance of the finished wall when viewed from a distance of 5 feet. The faces of the units shall pass the tests hereinafter specified for imperviousness, opacity, fading, and resistance to crazing. Overall dimensions of the face of units shall not differ by more than 1.5 percent over or under the intended dimensions, and for any one structure the difference in the over-all dimensions of the face of the individual units shall not exceed 1.5 percent of the intended dimensions. The maximum permissible distortion of the faces from a plane and of the edges from a straight line shall be those shown in column one of table I below. The maximum absorption of any one unit shall be 10 percent and for an average of 5 units shall be 8 percent. Requirements for minimum absorption will be waived. The minimum compressive

strength of any one end-construction unit shall be 2500 psi and of any one side-construction unit shall be 1500 psi. The average compressive strength of 5 end-construction units shall be not less than 3000 psi and of 5 side-construction units shall be not less than 2000 psi.

(2) *Smooth Unglazed Units:* All smooth unglazed units shall be type FTX, heavy-duty, select quality. The body of all smooth unglazed units shall be manufactured of fireclay. The face or faces that will be exposed when units are in place shall be free from cracks and shall have a smooth, unbroken, natural-die finish. The color of the faces shall be BUFF and shall conform

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to the approved samples. The finished face or faces of the smooth unglazed units shall be free from chips and other imperfections detracting from the appearance of the finished wall when viewed from a distance of 10 feet. Units having surface chips not in excess of ⅛ inch in from edges and ¼ inch in from corners will not be rejected. The faces of the units shall be highly resistant to staining and easily cleaned. Over-all dimensions of the face of the units shall not differ by more than 1.5 percent over or under the intended dimensions, and for any one structure the difference in the over-all dimensions of the faces of the individual units shall not exceed 1.5 percent of the intended dimensions. The maximum permissible distortion of the faces from a plane and of the edges from a straight line shall be those shown in column one of Table I below. The maximum absorption of any one unit shall be 9 percent and for an average of 5 units shall be 7 percent. Requirements for minimum absorption will be waived. The minimum compressive strength of any one end-construction unit shall be 2000 psi and of any one side-construction unit shall be 1000 psi. The average compressive strength of any 5 end-construction units shall be not less than 2500 psi and of 5 side-construction units shall be not less than 1000 psi.

5-05. (b) (3) *Permissible Distortion of Face or Edges:* Distortions of the face from a plane, or the edges of the face from a straight line when measured as the maximum ordinate from the plane or line to the face or edge shall not exceed the amount given below.

TABLE I

Standard face dimensions (height and length) in inches	*Maximum permissible distortion in inches* 1
2⅝ x 7⅝	3/64
5 1/16 x 7⅝	1/16
5 1/16 x 11¾	3/32
3⅝ x 11¾	3/32
7⅝ x 11¾	5/32
7⅝ x 15⅝	3/16

(4) *Compressive Strength:* Test for compressive strength shall be made in accordance with the methods described in Federal Specifications SS-T-341a.

8. On December 19, 1947, Addendum No. 1 was issued by the Huntington District Engineer which amended the Specifications accompanying the invitation for bids. The material amendments contained in Addendum No. 1 are as follows:

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SPECIFICATION

* * * * *

(11) *Par. 4-01, Page 4-1.* In the fourth line of this paragraph, delete "installation of brick and structural tile masonry" and substitute the following therefor: "installation of brick, structural tile and concrete block masonry."

(12) *Par. 4-02, Page 4-1.* Add the following at the end of this paragraph: "SS-C-621. Concrete Units; Masonry, Hollow."

(13) *Par. 4-03 (g) (2), Page 4-3.* After this subparagraph, add the following subparagraphs:

(h) *Concrete Masonry Units:* Concrete masonry units may be used, at the contractor's option, instead

of the corresponding type of structural clay tile and shall conform to the following:

(1) *Load-Bearing Units:* Load-bearing concrete masonry units shall conform to the requirements of Federal Specification SS-C-621, Type I, with weight of concrete 100 pounds or less per cubic foot. Units shall be of standard sizes and shapes including closers and shapes required by the construction, shall be free of any deleterious matter that will stain plaster or corrode metal, and shall be adequately cured before shipment.

(2) *Non-Load-Bearing Units:* Non-load-bearing concrete masonry units shall conform to the requirements of Federal Specification SS-C-621, Type II, with weight of concrete 100 pounds or less per cubic foot.

(14) *Par. 4-04, Page 4-3.* Add the following at the end of this paragraph:

"Concrete masonry units—2 of each type."

(15) *Par. 4-06 (c), Page 4-5.* Insert in the title of this subparagraph and in the first line after "structural clay tile" the following: "or concrete masonry units."

(16) *Par. 5-02, Page 5-1.* Delete the word "tile" appearing in the third and fifth lines of this paragraph and substitute the words "facing unit" therefor.

* * * * *

9. Additional addenda were issued on January 6, 1948, and January 26, 1948, but did not alter the specifications in any way material to this case.

10. The contract contained the standard clauses, particularly covering changes and disputes concerning questions of fact.

11. The plaintiffs and the subcontractor had embarked upon performance of their respective contracts when it was

discovered by the Government's liaison engineer on the Beckly and Clarksburg jobs, Samuel F. Brown, that cinder blocks were being used where finish schedule No. 50 on the

key sheet called for "Struc. Unglazed Units." This work had been done in a basement room marked B061 of the main building, and its discovery by Mr. Brown was the first indication he had that the contractor was so interpreting the requirements of the finish schedule and the specifications. Rather than have the completed structure torn out, plaintiffs were allowed to cover the cinder block with matte glazed tile (a facing tile), which produced the same appearance that would have been provided had the structural unglazed units called for been used. Plaintiffs made the necessary adjustments without protest and without claim for additional costs.

12. Following his discovery that cinder block had been used where structural unglazed units were specified, Mr. Brown cautioned the Government's resident engineer to make sure that the proper finish was used in the garage and boiler house where the finish schedule required structural unglazed units to be installed. Accordingly, the resident engineer instructed the plaintiffs.

13. Thereafter, plaintiffs placed unglazed facing tile in the areas designated on the plans to receive Finish 51. They then applied to the contracting officer for additional compensation in the amount of $19,284.29, representing the difference in the cost of installing facing tile over cinder block.

14. Plaintiffs' claim in the sum of $19,284.29 for the additional costs, together with overhead and profit to the subcontractor and the plaintiffs, involving the use of facing tile as compared with cinder block, is itemized as follows:

SOUTHEASTERN CONSTRUCTION CO. AND T. A. LOVING & CO.

[Statement of additional cost on account of requirement to use unglazed facing tile, type FTX, in areas of boiler house and garage marked "finish No. 51," in lieu of cinder block or structural tile]

Exterior Walls

Add:			
4,862 sq. ft. 8" UFT S1S	@$1.69	$ 8,216.78	
465 lin. ft. B/N corners	.50	232.50	
		8,449.28	
Deduct:			
4,862 sq. ft. 8" Cind. Bl. S1S	.64	3,111.68	
Net add a/c exterior			$ 5,337.60

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Interior Partitions

Add:			
338 sq. ft. 12" UFT S1S	$1.93	$ 652.34	
3,655 sq. ft. 8" UFT S2S	2.58	8,429.90	
1,317 sq. ft. 8" UFT S1S	1.69	2,225.73	
741 sq. ft. 4" UFT S1S	1.29	955.89	
27 sq. ft. 4" UFT S2S	1.39	37.53	
248 lin. ft. B/N Corners	.50	124.00	
		13,425.39	
Deduct:			
338 sq. ft. 12" Cind. Bl. S1S	1.16	392.08	
3,655 sq. ft. 8" Cind. Bl. S2S	.65	2,375.75	
1,317 sq. ft. 8" Cind. Bl. S1S	.64	842.88	
741 sq. ft. 4" Cind. Bl. S1S	.52	385.32	
27 sq. ft. 4" Cind. Bl. S2S	.52	14.04	
		4,010.07	
Net add a/c interior			9,415.32
Claim of subcontractor			14,752.92
Overhead 15.00% on $14,752.92			2,212.94
Profit 10.00% on $16,965.86			1,696.59
Bond 1.00% on $18,662.45			186.62
State Tax 1.80% on $18,849.07			339.28
City Tax .50% on $19,188.35			95.94
Total			$19,284.29

The actual costs of $14,752.92 to the subcontractor are established by the proof. The other items are calculations therefrom.

15. Said claim was denied by the contracting officer, and also denied on appeal to the Army Board of Contract Appeals of the Corps of Engineers, as the representative of the Secretary of the Army.

16. Plaintiffs have testified that they have acknowledged liability to the subcontractor for its part of the claimed

recovery, as shown in finding 14 above, at least to the extent of any recovery which may be secured.

17. It is admitted that the finish indicated for the walls of the cellar and boiler house is No. 51. By reference to the key sheet, plaintiffs' Exhibit 8, and the finish schedule therein set forth, it is noted that wall finish 51 is described as "Struc. Unglazed Units." The defendant calls attention to the fact that these three words used together appear

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only in Section 5-04 of the specifications under the general title of Section 5, to wit, "Masonry: Structural Facing Units." It is not contended by the plaintiffs that such words in Section 5-04 should not have been identified as those called for on the key sheet.

18. Plaintiffs further concede that in the same sentence of Section 5-04, structural unglazed units are identified as smooth unglazed units. However, plaintiffs say that the expression "smooth unglazed units" is not sufficiently definite to indicate facing tile, and can comprehend concrete cinder block. However, there is a special section of Section 5, designated as 5-05 (2), giving a detailed description of smooth unglazed units, which clearly sets forth requirements which designate facing tile and are not satisfied by concrete cinder block.

It is conceded that the full self-contained description of the finish which plaintiffs were required to install in the disputed areas is "structural unglazed facing units." However, the expression "structural facing units" would not be sufficiently definite, because such units might be either glazed or unglazed. In the trade the expression is sometimes abbreviated to omit the word "facing," and the designation may be either "structural glazed units" or "structural unglazed units." It appears that the use of the word

"unglazed" indicates in the trade that a product is called for which might in some instances be either glazed or unglazed, and is not understood to apply to a product such as concrete cinder block.

CONCLUSION OF LAW

Upon the foregoing findings of fact, which are made a part of the judgment herein, the court concludes that as a matter of law the plaintiffs are not entitled to recover, and the petition is therefore dismissed.